



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,930	09/30/2003	Terry L. Schneider	7784-000553CPB	5157
65961	7590	07/27/2007		
HARNESS DICKEY & PIERCE, PLC			EXAMINER	
P.O. BOX 828			CROUSE, BRETT ALAN	
BLOOMFIELD HILLS, MI 48303				
			ART UNIT	PAPER NUMBER
			1774	
			MAIL DATE	DELIVERY MODE
			07/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/674,930	<b>Applicant(s)</b> SCHNEIDER, TERRY L.	
	<b>Examiner</b> Brett A. Crouse	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action is in response to applicant's amendment, filed 23 April 2007, which amends claims 1, 3, 4, 10, 11, 16, 23, and 26-35. Claims 1-36 are pending.

#### ***Response to Amendment***

Applicant's amendment, filed 23 April 2007, with respect to the rejection of claims 3, 4, 10, 11, 16, 22, 23 and 26-35 under 35 U.S.C. 112, second paragraph, overcomes the rejection.

Applicant's amendment, 23 April 2007, with respect to the rejection of claims 1-11, 13-32, and 34-36 under 35 U.S.C. 103(a), as being unpatentable over (Ogata, US 6,099,969), fails to overcome the rejection of record. The rejection of claims 1-11, 13-32, and 34-36 is maintained for reasons of record in the office action of 23 January 2007.

Applicant's amendment, 23 April 2007, with respect to the rejection of claims 1-36 under 35 U.S.C. 103(a), as being unpatentable over (Terasaka, US 5,770,305), fails to overcome the rejection of record. The rejection of claims 1-36 is maintained for reasons of record in the office action of 23 January 2007.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1774

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1774

Claims 1-11, 13-32, and 34-36 stand rejected under 35 U.S.C. 103(a) as being unpatentable over (Ogata, US 6,099,969) hereinafter known as Ogata.

Claims 1-36 stand rejected under 35 U.S.C. 103(a) as being unpatentable over (Terasaka, US 5,770,305) hereinafter known as Terasaka as evidenced by <http://herkules.oulu.fi/isbn9514252217/html/x317.html>, Fundamental characteristics of nickel-titanium shape memory alloy, Oulun Yliopisto.

#### *Response to Arguments*

With respect to the rejection of claims 1-11, 13-32, and 34-36 under 35 U.S.C. 103(a) as being unpatentable over (Ogata, US 6,099,969) applicant argues that Ogata does not teach or suggest that the shape memory alloy particles enhance a compression-after-impact strength of the coating. It is noted that applicant does not argue that Ogata does not embrace a shape memory alloy or more specifically a nickel-titanium alloy. In the absence of factual evidence to the contrary one of ordinary skill in the art would reasonably presume that a coating or paint comprising shape memory alloy particles would be expected to exhibit the claimed critical property.

With respect to the rejection of claims 1-36 under 35 U.S.C. 103(a) as being unpatentable over (Terasaka, US 5,770,305) applicant argues that Terasaka teaches the NiTi alloy particles in a martensitic (compressed) state and that to provide compression-after-impact strength the particles need to be in the austenitic (uncompressed) state. The examiner agrees that Terasaka

Art Unit: 1774

teaches the particles in a compressed state. However, applicant's argument is of narrower scope than the breadth of the scope of the claims under examination. The independent claims do not require that the particles are uncompressed versus compressed.

The scope of the presently rejected claims encompasses the composition of Terasaka. For example, independent claims 1 and 14 are not limited to austenitic (uncompressed) particles within the coating. Claim 10, which is dependent from claim 1 and claims 22 and 23, which are dependent from claim 14 are directed to particles in the martensitic state. Additionally, if the particles are in a compressed state and are applying a force normal to the surface of the coating, it is unclear as to why this force would not act in opposition to an externally applied stress, such as by an impact event. Thus, it is not clear that the shape memory alloy particles of Terasaka do not in fact result in the claimed critical properties, as the claims only require a shape memory alloy to obtain said properties. Further, there exists no clear nexus in the claims between the state of the particles and compression-after-impact strength. In the absence of factual evidence to the contrary one of ordinary skill in the art would reasonably presume that a resin comprising a shape memory alloy would be expected to exhibit the claimed critical property.

The secondary reference associated with the Terasaka rejection is used solely as an evidential reference.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

Art Unit: 1774

applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is 571-272-6494. The examiner can normally be reached on Monday - Friday 6:00AM - 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1774

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BAC, 22 July 2007



JILL GRAY  
PRIMARY EXAMINER